

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028642**Date Inspected:** 24-Oct-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	William Sherwood and Steve Jensen			<b>CWI Present:</b>	Yes	No	
<b>Inspected CWI report:</b>	Yes	No	N/A	<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A	<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A	<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A	<b>Approved WPS:</b>	Yes	No	N/A
				<b>Delayed / Cancelled:</b>	Yes	No	N/A
<b>Bridge No:</b>	34-0006			<b>Component:</b>	SAS OBG		

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 12E-E2.1-C corner drop-in side plate outside, QA randomly observed ABF/JV qualified welder Ric Chouinard continuing to perform CJP groove welding repair at location Y=1000mm to Y=1900mm with excavation profile of 900mm long x 60mm wide x 10mm deep. The repair welding is being performed per Caltrans approved Request for Weld Repair (RWR) #201210-013. The welder was observed manually welding in the 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 4.0mm diameter E7018H4R electrode implementing Caltrans approved welding procedure ABF-WPS-D15-1004 Repair. The second time repair excavation was preheated to more than 225 degree Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blanket put in place on top of the side plate prior excavation. During the shift, ABF QC William Sherwood was noted monitoring the welder with measured working current of 170 amperes on the 4.0mm E7018H4R electrode and adjusted preheat temperature of 325°F during welding. During the shift, welder has not completed the welding repair mentioned above but performed the Post Weld Heat Treatment (PWHT) of 450°F and held it for one (1) hour after welding as required.

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At OBG 12E-E2.1-C corner drop-in side plate outside, QA randomly observed ABF/JV qualified welder Wai Kit Lai continuing to perform CJP groove welding repair at location Y=14500mm to Y=15500mm with excavation profile of 1000mm long x 55mm wide x 9mm deep. The repair welding is being performed per Caltrans approved Request for Weld Repair (RWR) #201210-013. The welder was observed manually welding in the 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 4.0mm diameter E7018H4R electrode implementing Caltrans approved welding procedure ABF-WPS-D15-1004 Repair. The second time repair excavation was preheated to more than 225 degree Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blanket put in place on top of the side plate prior excavation. During the shift, ABF QC William Sherwood was noted monitoring the welder with measured working current of 160 amperes on the 4.0mm E7018H4R electrode and adjusted preheat temperature of 325°F during welding. During the shift, welder has not completed the welding repair mentioned above but performed the Post Weld Heat Treatment (PWHT) of 450°F and held it for one (1) hour after welding as required.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT on the OBG corner drop-in floor beam splice and plate stiffener butt joints. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the welds and the QC inspection complied with the contract documents.

1. 13W-PP123-W2.1 BF2 – floor beam flange T-joint weld cover QA verified

FW Spencer:

At Tower location elevation 53 meter, this QA randomly observed FW Spencer qualified welder Damian Llanos continuing to perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on 3” domestic utility water line field splice butt joints. The welder was noted welding the butt joints on two 3” diameter 45 degree elbows to 3” diameter pipe line. The welder was noted welding the root pass with 3/32” diameter E6010 electrode and followed by fill pass to cover pass using 3/32” diameter E7018H4R electrode implementing Caltrans approved procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable propane gas torch prior welding. During welding, ABF QC Steve Jensen was noted monitoring the parameters of the welder. At the end of the FW Spencer shift, CJP welding on three (3) 3” diameter domestic utility water line was completed.

Line Service	Pipe Size	Panel Point Location	Joint Designation
1. Domestic Water	3”	42 Tower elev. 53	3/3/42/T53
2. Domestic Water	3”	42 Tower elev. 53	4/3/42/T53
3. Domestic Water	3”	42 Tower elev. 53	5/3/42/T53

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At OBG 12E-E2, 1-C corner drop-in side plate outside, ABF welder Ric Choulhard was observed continuing to perform 4G (overhead) position Shielded Metal Arc Welding (SMAW) welding repair on welded butt joint Y=1000mm.



At OBG 12E-E2, 1-C corner drop-in side plate outside, ABF personnel were noted using the Miller ProHeat 35 Induction Heating System to preheat and maintain the required temperature of 325 degrees Fahrenheit during repair welding.



At OBG deck, PW Spencer welder Damian Llanos was noted performing fit up on 3" diameter spool for the compressed air supply of Tower elevation 53 meter.



Completely welded 3-3" diameter compressed air supply for Tower elevation 53 meter.



## Summary of Conversations:

No significant conversation occurred today.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

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**Reviewed By:** Reyes, Danny

QA Reviewer